

Design Approval Memorandum

I-82/South Union Gap Interchange – Construct Ramps

I-82/MP 37.0 to MP 38.5

XL5660

PIN: 508209U

Project Description

The I-82 south Union Gap interchange is currently a partial interchange with an eastbound on-ramp and a westbound off-ramp to and from I-82 respectively. This project will complete the interchange by constructing a westbound on-ramp from the City of Union Gap to I-82 and eastbound off-ramp into the City of Union Gap from I-82 to provide full access to W. Ahtanum Road via the City of Union Gap's future Regional Beltway project.

This Project was evaluated using the Project Delivery Method Selection (PDMS) checklist and a design-build delivery method was selected as documented in the attached Project Documents tab.

Existing Conditions

Below are the existing roadway conditions that affect the project design parameters:

Existing Conditions				
Route	I-82	Main Street	Exit 37 Ramps	US 97
Functional Class*	Urban Interstate	PRINCIPAL ARTERIAL	PRINCIPAL ARTERIAL	PRINCIPAL ARTERIAL
Lane Widths*	12' Lanes	12' Lanes	12' Lanes	12' Lanes
Shoulder Widths*	10' outside/ 4' inside	8' shoulders	10' outside / 4' inside	10' outside/ 4' inside
Posted Speed	60 MPH	35-50 MPH	25 MPH US 97 ramp 50 MPH I-82 ramps	55 MPH
Land Use*	Urban	Urban	Urban	Urban
Terrain*	Rolling	Rolling	Rolling	Rolling
Design Vehicle	WB-67	WB-67	WB-67	WB-67
Truck Percentage**	14%	10%	10% - 14%	12%
ADT Volumes**	26,000	7,000	3,000 - 9,500	25,000
Access Control	LIMITED/FULL	LIMITED	LIMITED	LIMITED
Table References:	*2017 State Highway Log, ** South Union Gap IJR			

Basis of Cost Estimate

As a Design-Build project, a Basis of Estimate is not provided with the Design Approval. The Design office prepared a preliminary estimate for the project in May 2018 and determined an estimated cost for the project to be between \$20 to \$25 million.

WIN # E08209U					
PIN	Sub-programs	Preliminary Engineering	Right of Way	Construction	Total
508209U	I3	\$2,700,000	\$500,000	\$31,200,000	\$34,400,000
Project Total:				\$34,400,000	

Basis of Design (BOD)

A BOD was prepared in accordance with the WSDOT Design Manual (July 2017). The BOD outlines six different alternatives; the preferred alternative adds a new off-ramp from eastbound I-82, a new on-ramp to westbound I-82, and realigns the off-ramp from US 97 to Main street as further discussed in the Interchange Justification Report (July 2014).

Crash Analysis Report

A Crash Analysis Report (CAR) was not required for this project.

An Interchange Safety Analysis Tool – Enhanced (ISATe) report was completed in May 2018.

Design Analysis/Design Decision

There are no Design Analyses for this project.

Right of Way and Access Control

Using Practical Solution methodology, the Project Office developed a basic configuration that eliminated the need for additional Right of Way or change in access control.

Interchange Plans

The Conceptual Interchange Plans are included in this Design Approval. The final Interchange Plans are the responsibility of the Design-Builder to complete for approval.

Plans and Profiles

Proposed copies of the alignment plans and profiles are not included in this Design Approval. The Interchange Plans serve in the place of the alignment plan and profiles, and covers the extent of the work.

Maintenance Concerns

Les Turnley, Area 2 Maintenance Superintendent was consulted about barrier types to be used on the project. He indicated that concrete barrier was the preferred alternative to the existing median cable barrier along I-82. He also requested the use of steel post guardrail on any new guardrail installations.

Keith Maybee, WSDOT Toppenish Maintenance Supervisor was also consulted and he requested concrete barrier on curves, advanced warning rumble strips, and additional traffic signing for the US 97 to Main Street loop ramp.

Community Engagement

Active community engagement has taken place throughout all stages of the project. Methods used to communicate with the community regarding this project have been the WSDOT website, displays at community events and fairs, email, traditional media, social media, an IJR hearing, NEPA open house, as well as a community open house. Over 48 alternatives were evaluated during quarterly meeting with the community, earning endorsement for the project by a coalition of Yakima area elected officials, business and community leaders, TRANS-Action, and the YVCOG. Future community engagement efforts during the design build phase of this project plan will consist of using the services of the SCR Communications office and the selected Design-Builder.